

REMARKS

Support for the amendments to the specification may be found in Applicants' specification at page 10, lines 10-21, page 12, lines 1-14, and the Figure.

Claim rejections under 35 U.S.C. 112, second paragraph

Claims 55-66 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action at page 2 indicates that claims 55-66 lack proper antecedent basis for "the auxiliary compressor" since the auxiliary compressor was not claimed until claim 43. Applicants respectfully traverse the rejection. Reconsideration and withdrawal of the rejections are respectfully requested in view of the amendments and remarks.

Applicants suggest that the claim rejections under 35 U.S.C. 112, second paragraph, have been rendered moot by Applicant's amendment of claims 55-66 to depend from claims 43-54, respectively. Applicants suggest that claims 43-54 disclose at least one auxiliary refrigerant compressor to provide for antecedent basis for amended claims 55-66.

Claim rejections under 35 U.S.C. 102(b) as being anticipated by Newton

Claims 1-66 have been rejected under 35 U.S.C. 102(b) as being anticipated by Newton ("Newton") (U.S. Patent No. 4,809,154). Applicants respectfully traverse the rejection. Reconsideration and withdrawal of the rejections are respectfully requested in view of the amendments and remarks.

Anticipation requires that a reference teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See MPEP §2131.

Newton column 6, lines 1-58, discloses various features of the Newton process. Newton column 6, lines 1-6, discloses that after it is ascertained that the MR liquid level is within the specified range, the MR composition is then optimized. The roughest optimization of MR composition involves adjustment of flow ratio controller (FRC) valve 116. Such an optimization is carried out with regard to the overall efficiency of production facility 2.

Newton column 6, lines 33-37, discloses that in the case of optimization of MR composition, the setting of the flow ratio controller valve 116, nitrogen content of the MR, and $C_3:C_2$ ratio is done sequentially by an algorithm which attempts to find peak efficiency while adjusting the given parameter. Newton column 6, lines 38-41, discloses that while these adjustments (FRC, N_2 , $C_2:C_3$ ratio) may have some effect upon each other, and thus may be performed in other orders than shown, the preferred embodiment adjusts them in the order described above in Newton.

Newton column 6, lines 42-44, discloses that after optimization of these parameters, the compression ratio controller (CRC) valve 128 is adjusted for peak efficiency. Newton column 6, lines 49-58, discloses that the optimization of compression ratio begins by incrementing the compression ratio until a peak efficiency is reached or until the MR compressor discharge pressure exceeds a predefined maximum pressure. When either of these conditions is met, the compression ratio is decremented until the efficiency falls. After finding maximum efficiency versus compression ratio, the last optimization step performed is an optimization of compressor turbine speed.

Applicants suggest that Newton discloses a sequential process that does not anticipate, disclose, or suggest Applicants' simultaneous control actions for a set of manipulated variables in order to optimize at least one of a set of parameters as recited in Applicants' independent claim 1 and the claims depending therefrom. Applicants suggest that Newton controls sequentially, for example, first the MR liquid level, then the MR composition, and then adjusting the compression ratio controller valve, that does not anticipate, disclose, or suggest simultaneous control actions and teaches away from simultaneous control actions.

Applicants also suggest that Newton may not anticipate, disclose, or suggest that the controlling of the at least one of a set of controlled variables comprises

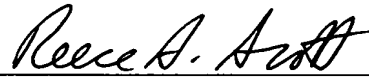
controlling the pressure in the separator of step (d) (Applicants' new dependent claim 67) or that the controlling of the at least one of a set of controlled variables comprises controlling the pressure in the shell of the main heat exchanger (Applicants' new dependent claim 68).

CONCLUSION

Applicants respectfully request reconsideration and withdrawal of the claim rejections under 35 U.S.C. 112, second paragraph, and 35 U.S.C. 102(b). Applicants further respectfully request entry and consideration of the above amendments and remarks to advance the above-identified application to allowance.

Respectfully submitted,

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